

In Memoriam
DR. JOHN SHAW BILLINGS
Deputy Surgeon-General, U. S. Army
(1838-1913)

Dr. John Shaw Billings, chairman of the Board of Trustees of the Carnegie Institution of Washington, director of the New York Public Library, and founder of the *INDEX MEDICUS*, died in New York City on March 11, 1913.

Dr. Billings was born in Switzerland County, Indiana, on April 12, 1838. He was graduated from the Miami University, Cincinnati, in 1857, receiving his A.M. in 1860 and his M.D. from the Medical College of Ohio, the institution founded by Daniel Drake, in the same year. In his reminiscences of "The Medical College of Ohio before the War"¹ he has left an interesting account of this period, of the controversies between the rival medical schools and professors, of the medical politicians, of the Old Commercial Hospital, "with its pest house in the back yard," of old St. John's, "with Sister Anthony and her devoted band of helpers," and of "the time when we were boys, scattered through the valleys of the two Miamis, through Indiana clearings and old Kentucky homes, and when a day hunt for squirrels and Bob White or a night expedition after coons was among the most important business of life." "In those days," he says, "they taught us medicine as you teach boys to swim,—by throwing them into the water." After serving as resident physician at the St. John's Hospital (1858-59) and the Commercial Hospital of Cincinnati (1859-60), and as demonstrator of anatomy in the Medical College of Ohio (1860-61), he passed the army examination in September, 1861, and here, as he remarks, his real post-graduate course began, in "the four years of the war, with its service in camps and hospitals, with battlefields for the great clinics,—a long, weary course." During the Civil War, his record for courage and ability was of the best, and the end of the great struggle found him medical inspector to the Army of the Potomac, with a brevet of lieutenant-colonel, "for faithful and meritorious services" (1865). Being in charge of Cliffburne Hospital, near Georgetown, July 3, 1862, assisted by sixty Sisters of Charity, he took care of many Union and Confederate wounded from the seven days before Richmond, and did nearly all of the operating. At Chancellorsville, he and his assistants worked night and day, under artillery fire, in feeding and taking care of the wounded; at Gettysburg, his experiences were the same, and in both battles he did an enormous amount of surgical work. During the war, he performed nearly all the major operations done in the pre-Listerian period, and he was the first surgeon in the war to attempt the rare operation of excision of the ankle joint (January 6, 1862), with complete recovery of his patient. On December 21, 1864, he was assigned to duty in the Surgeon-General's Office, and here the most important work of his life began. In the reminiscences above quoted, he has told of his student aspirations "to try to establish, for the use of American physicians, a fairly complete medical library, and in connection with this to prepare a comprehensive catalogue and index which should spare medical teachers and writers the drudgery of consulting ten thousand or more different indexes or of turning over the leaves of as many volumes to find the dozen or so references of which they might be in search."² When Dr. Billings took hold of this work, the Surgeon-General's Library, a mere office outfit of books in Surgeon-General Lovell's time (prior to 1836), contained a little over 1,000 volumes. When, in 1895, he was retired from the army at his own request to become Professor of Hygiene at the University of Pennsylvania, the library contained 308,445 volumes and pamphlets and 4,335 portraits. At the present time it contains upwards of half a million volumes and over 5,000 portraits, and has the most unique collection of medical periodicals in the world. The work of indexing the periodicals was begun in 1872, and, during Dr. Billings's

¹ Cincinnati Lancet-Clinic, 1888, n. s., xx, 297-305.

² *Op. cit.*, 297.

incumbency, was accomplished in this wise: Almost every evening, a government van would leave a wagonload of medical journals at his private residence, and, the next day, these would be taken back to the library with the material for indexing properly checked; the day was spent in attending to administrative duties and in training the clerical force (most of them old hospital stewards) in the work of indexing cards and preparing copy. In 1876, Dr. Billings published a "Specimen Fasciculus of the Catalogue" of the Library, consisting of a combined index of authors and subjects, arranged in dictionary order in a single alphabet, which was submitted to the medical profession for criticisms and suggestions. Shortly afterward, Dr. Robert Fletcher was assigned to duty in the Library and became the principal assistant in the work of preparing and printing the Index Catalogue, the first volume of which, a large quarto of 888 pages, was published in 1880. The value of this huge undertaking, an unusual thing to come out of a new country, was soon acknowledged by the medical profession all over the world. In the first series (1880-95) the material was selected and the scientific classification made by Billings, while Fletcher gave to the proof-reading his rare scholarship and critical acumen. After Dr. Billings's retirement, the classification, redaction, and proof-reading of the second series was superintended by Dr. Fletcher up to the time of his death (1896-1912). Dr. Billings's administrative successors in office, all of them army surgeons especially selected for their medical knowledge and general culture, were two Massachusetts men, Colonel David L. Huntington, a Yale graduate, and Major James C. Merrill, of Harvard, the latter well known for his work in ornithology; and two Virginians, Major Walter Reed, and Colonel Walter D. McCaw. Under Colonel McCaw's administration, the scope of the library has been greatly enlarged, its personnel highly improved, and the completion of the unique collection of medical classics has been especially fostered. In this way, many lacunæ in the first series, which, as Dr. Billings always maintained, is not a complete bibliography, but a bibliographical conspectus of the contents of a great library, have been filled. As a monthly supplement to the Index Catalogue, the INDEX MEDICUS was begun by Dr. Billings and Dr. Fletcher in 1879, as an extra-official publication, the work of copying the library cards for redaction having been parceled out, as the celebrated Haller did with his eighteenth century bibliographies of medicine, among the wives and daughters of the office force, as private work. In 1903 the second series of the INDEX MEDICUS was started under the patronage of the Carnegie Institution of Washington, with Dr. Fletcher as editor-in-chief (1903-1911).

During his career in the Surgeon-General's Office, Dr. Billings became widely known as an authority on military medicine, public hygiene, and vital statistics, and an expert in hospital construction. In 1875, the plans which he submitted for the construction of the proposed Johns Hopkins Hospital, based upon a careful study of European institutions of the time, were selected by the committee as the best out of a group of five, and, under his direction, this splendid institution was built upon the pavilion system and opened on May 7, 1889. Dr. Billings's original recommendations,¹ novel at the time, included not only the care of the sick poor but the graded accommodation of pay and private patients in rooms or suites of rooms, proper education of physicians and nurses, and, above all, the promotion of "discoveries in the science and art of medicine, and to make these known for the general good." He insisted that the out-patient department should be connected with the building set apart for the instruction of students and separated from the administration buildings; that clinical instruction should be mostly given in the wards and out-patient department and not in an amphitheater except in the surgical unit; that medical cases should not be brought from beds to an amphitheater; that there should be two pharmacies and a training school for nurses; and that a perfect system of records, financial, historical, and clinical, should be kept. Under these wise rulings, great advances in medical teaching were made, from the start, by the brilliant group of Johns Hopkins professors, Osler, Welch, Halsted, and Kelly. Billings, with Welch, organized the medical school. As Osler says, "Dr. Billings's counsel was always sought, and the growth of the school was a matter of pride to him. For years he lectured on the history of medicine."

Apart from the Johns Hopkins Hospital, Dr. Billings supervised the planning and administration of the Barnes Hospital (Soldiers' Home, D. C.), the Army Medical Museum, the Laboratory of Hygiene and the William Pepper Laboratory of Clinical Medicine in Philadelphia, the New York Public Library, which he blocked out with his own hands (1897),² and he made the original plans of the Peter Bent Brigham

¹ Hospital Plans. Five essays . . . for the use of the Johns Hopkins Hospital. New York, 1875, 3-11, *passim*.

² Library Journal, New York, 1911, xxxvi, 238.

Hospital in Boston. He reorganized the United States Marine-Hospital Service, in 1870; was vice-president of the National Board of Health (1879-82); and played an important part in handling the yellow fever epidemic at Memphis. During his active life, he was in constant request as an expert adviser in hospital construction and the sanitation of cities. He was the author of important bibliographies of cholera (1875) and alcoholism (1894), many special reports on public hygiene and military medicine, published a treatise on ventilation and heating (1884), which was republished in enlarged form (1893), got up a useful dictionary of English, French, German, Italian, and Latin medical terms (1890), and made several valuable reports on the vital and medical statistics of the United States, in connection with the tenth and eleventh census. As professor of hygiene at the University of Pennsylvania (1891-96), he did good work in the organization and administration of the two laboratories planned by him, but the final achievement of his life was the completion of the New York Public Library on Fifth Avenue, of which he became director in 1896. The consolidation of the Astor, Lenox, and Tilden foundations with the special endowments of Mr. Andrew Carnegie, amounting to \$5,200,000, has resulted in a collection of over two million volumes, with upwards of fifty branch libraries and a staff of 1,002 persons.

Dr. Billings was one of the organizers of the Carnegie Institution of Washington, a member of the Executive Committee from the beginning, and chairman of the Board of Trustees from 1903 on. Concerning this phase of his work, Mr. Root, his administrative colleague, said in his resolutions of March 21, 1913, "His breadth of learning and of interest in all departments of knowledge, his sturdy and fearless independence of character, and the safeguarding influence of his experience have been of inestimable value during the experimental and formative period of the Institution, of whose future usefulness his service will be one of the chief foundations."

In September, 1862, Dr. Billings married Miss Kate M. Stevens, who died in 1912. He is survived by four daughters and his son, Dr. John S. Billings, Jr., whose work in the New York Health Department is well known.

Dr. Billings was an active or honorary member of a large number of medical and scientific societies, and honorary degrees were conferred upon him by the universities of Edinburgh (1884), Harvard (1886), Oxford (D.C.L., 1889), Munich (1889), Dublin (1892), Budapest (1896), Yale (1901), and Johns Hopkins (1902). On November 30, 1895, a banquet was given in his honor in Philadelphia, with the unique tribute of a purse of \$10,000 by 260 members of the profession in Great Britain and the United States. From a surplus of this fund, a life-size portrait was painted by Cecilia Beaux, of Philadelphia, which now hangs in the Surgeon-General's Library.

As a contributor to medical literature, Dr. Billings was distinguished by rare common sense, keen perceptions, a lively vein of humor, and remarkable surety of judgment. His wise and witty address on "Our Medical Literature," delivered at the International Medical Congress in London (1881) made a deep impression, and it was followed by a number of similar discourses, equally good, such as that delivered before the British Medical Association in 1886, his Cartwright Lectures on vital and medical statistics (1889), his address at the opening of the Johns Hopkins Hospital (1889), and his many papers on medical education, public health, and medical bibliography. His address to the graduating class of Bellevue Hospital Medical College (1882)¹ is a delightful burlesque of the platitudes usually delivered by the valedictorian and the deliverer of diplomas, and his discourse on "Waste," on commencement day at his old *alma mater*, Miami University (1895), is full of Emersonian wisdom. His lectures on medical history were never published except in the case of an introductory lecture on medical folklore, delivered before the Lowell Institute in 1888,² which is a most original contribution to the subject. His most interesting publications in this field are his "History of Surgery" (1895),³ which still remains the best work on the subject in English, absolutely accurate as to facts, dates, and critical judgments; and his survey of the medical literature and institutions of the United States up to the year 1876,⁴ which marked a great advance upon the earlier kind of florid, uncritical writing upon this theme. A just but kindly critic of American medicine, Billings emphasizes the true worth of such men as Daniel Drake, Gerhard, or the elder Mitchell, and closes with this dignified message of hope:

¹ Medical News, Philadelphia, 1882, xi, 285-288.

² Boston Medical and Surgical Journal, 1888, cxviii, 29; 57.

³ In Dennis and Billings: System of Surgery, New York, 1895, i, 17-144.

⁴ American Journal of Medical Sciences, Philadelphia, 1876, n. s., lxxii, 439-480.

"The defects in American medicine are much the same as those observed in other branches of science in this country, and to a great extent are due to the same causes.

"Culture, to flourish, requires appreciation and sympathy, to such an extent, at least, that its utterances shall not seem to its audience as if in an unknown tongue.

"We have no reason to boast or to be ashamed of what we have thus far accomplished; it has been but a little while since we have been furnished with the means of investigation needed to give our observations that accuracy and precision which alone can entitle medicine to a place among the sciences properly so-called; and we may begin the new century in the hope and belief that to us applies the bright side of the maxim of Cousin, 'It is better to have a future than a past.'"

In person, Dr. Billings was of tall and powerful build, a commanding figure, with a handsome head and clear, open blue eyes. His was the masterful temperament, absolutely firm, independent, and self-reliant, the temperament of the great organizer, administrator, and man of affairs, and, in certain situations, he had perhaps some of the faults of an imperious nature. But he was absolutely honest and sincere, there was nothing small or mean about him, and if he expressed dislike or incurred enmity, he did so in a bold, forthright way, in the jocund spirit of the man of Viking physique. In all relations, he upheld the honorable Saxon tradition of playing the game of life according to its ethical rules and seeing to it that others did the same, but his aggressive temperament was usually veiled by a patient and thoughtful courtesy. Thus he came to be looked up to and sought after everywhere as, that rare thing in modern life, an absolutely reliable man. "He was quite simple and sincerely modest, although this did not prevent an amused but quite magnanimous contempt for mere talkers," says one of his old friends, Dr. J. Y. W. MacAlister, of London, who adds, "He undertook tasks, and carried them through, which ordinary men attempt only by means of committees, institutions, societies, 'coöperations,' and a vast amount of fuss and noise. His plan was simplicity itself. If the thing were worth doing, he simply did it. . . . He had done a big life's work when he was called to come and administer the great New York Public Library, and he tackled it on his own principle — without fuss or unnecessary publicity; he just 'began,' and each day's herculean 'chore' saw him miles on his way to triumphant success."¹ Of his early days in the Surgeon-General's Library, Professor Franz von Winckel wrote: "Die Arbeitskraft dieses Mannes ist schier unglaublich und wer ihn, umgeben von seinen zahlreichen Mitarbeitern in seiner kleinen engen Werkstätte in Washington besucht und mit ihm das Army Medical Museum — auch zum grössten Theil seine Schöpfung — durchwandert hat, wird von Bewunderung für diesen Heroen unserer Wissenschaft erfüllt sein."² This was the Billings, always "from strength to strength advancing," of whom we of the Surgeon-General's Office are so justly proud.

A great organizer and pioneer, his name will always stand among the highest in our medical history as one of those who have dared greatly and achieved greatly for the advancement of scientific medicine in this country.

F. H. G.

¹British Medical Journal, London, 1913, i, 642.

²Münchener medizinische Wochenschrift, 1887, xxxiv, 10.